1. A compatible optical pickup device to receive first and second optical disks having different thicknesses, comprising:

a light source to emit a light having a wavelength longer than 650 nm;

an objective lens having a near axis area, a ring type annular lens area, and a far axis area with respect to an apex, said objective lens

to focus the light emitted from said light source to form a first light spot when the first optical disk, which is relatively thin, is received, and a second light spot when the second optical disk, which is relatively thick, is received, and

the first light spot has an FWHM (full width at half maximum) less than or equal to 0.72 μm with respect to the first optical disk, and the second light spot has an FWHM greater than or equal to 0.8 μm with respect to the second optical disk;

an optical path changer arranged on an optical path between said light source and said objective lens to selectively change a proceeding path of incident light; and

a photodetector to receive light reflected by the received one of the first and second optical disks and having passed through said objective lens and said optical path changer, and to detect an information signal and/or an error signal.

2. The device as claimed in claim 1, wherein the first optical disk is an optical disk of a DVD family, and the second optical disk is an optical disk of a CD family.

3. The device as claimed in claim 1, wherein said light source emits the light having a wavelength between 680 - 780 nm.

4. The device as claimed in claim 3, wherein said objective lens has an effective numerical aperture greater than or equal to 0.63 with respect to the first optical disk, and an effective numerical aperture less than or equal to 0.53 with respect to the second optical disk.

5. The device as claimed in claim 1, wherein said light source emits light having a wavelength between 750 - 770 nm.

6. The device as claimed in claim 5, wherein said objective lens has an effective numerical aperture greater than or equal to 0.7 with respect to the first optical disk, which is relatively thin, and an effective numerical aperture less than or equal to 0.53 with respect to the second optical disk, which is relatively thick.

7. The device as claimed in claim 1, wherein said objective lens has an effective numerical aperture greater than or equal to 0.7 with respect to the first optical disk, which is relatively thin, and an effective numerical aperture less than or equal to 0.53 with respect to the second optical disk, which is relatively thick.

8. The device as claimed in claim 1, wherein the ring-type annular lens area of said objective lens is optimized to the second optical disk so that,

when the first optical disk is to be reproduced/recorded, the light that forms the first light spot passes through the near axis area and the far axis area and is focused on an information recording surface of the first optical disk, and

when the second optical disk is to be reproduced/recorded, the light that forms the second light spot passes through the near axis area and the annular lens area and is focused on the information recording surface of the second optical disk.

9. The device as claimed in claim 4, wherein the ring-type annular lens area of said objective lens is optimized to the second optical disk so that,

when the first optical disk is to be reproduced/recorded, the light that forms the first light spot passes through the near axis area and the far axis area and is focused on an information recording surface of the first optical disk, and

when the second optical disk is to be reproduced/recorded, the light that forms the second light spot passes through the near axis area and the annular lens area and is focused on the information recording surface of the second optical disk.

10. The device as claimed in claim 6, wherein the ring-type annular lens area of said objective lens is optimized to the second optical disk so that,

when the first optical disk is to be reproduced/recorded, the light that forms the first light spot passes through the near axis area and the far axis area and is focused on an information recording surface of the first optical disk, and

when the second optical disk is to be reproduced/recorded, the light that forms the second light spot passes through the near axis area and the annular lens area and is focused on the information recording surface of the second optical disk.

11. The device as claimed in claim 7, wherein the ring-type annular lens area of said objective lens is optimized to the second optical disk so that,

when the first optical disk is to be reproduced/recorded, the light that forms the first light spot passes through the near axis area and the far axis area and is focused on an information recording surface of the first optical disk, and

when the second optical disk is to be reproduced/recorded, the light that forms the second light spot passes through the near axis area and the annular lens area and is focused on the information recording surface of the second optical disk.

12. The device as claimed in claim 1, wherein said light source comprises an edge emitting laser or a vertical cavity surface emitting laser, and said optical path changer comprises:

a polarization hologram element to diffract the incident light to a 0^{th} order ray, or $+1^{st}$ order and/or -1^{st} order rays according to a linear polarization component thereof; and

a wave plate to change the linear polarization of the incident light.

13. The device as claimed in claim 1, wherein said light source comprises an edge emitting laser or a vertical cavity surface emitting laser, and said optical path changer comprises a beam splitter arranged between said light source and said objective lens to transmit and/or reflect incident light.

14. The device as claimed in claim 13, wherein the beam splitter transmits or reflects the incident light according to a polarization of the incident light, and further comprising a wave plate arranged between the beam splitter and said objective lens to change the polarization of the incident light.

15. The device as claimed in claim 1, further comprising a collimating lens on an optical path between said optical path changer and said objective lens.

16. A compatible optical pickup device to receive first and second optical disks having different thicknesses, comprising:

a light source to emit a light having a wavelength longer than 650 nm;

an objective lens comprising a near axis area, a ring type annular lens area, and a far axis area with respect to an apex, said objective lens

to focus the light emitted from said light source to form a first light spot when the first optical disk, which is relatively thin, is received, and a second light spot when the second optical disk, which is relatively thick, is received, and

having an effective numerical aperture greater than or equal to 0.63 with respect to the first optical disk and an effective numerical aperture less than or equal to 0.53 with respect to the second optical disk;

an optical path changer arranged on an optical path between said light source and said objective lens to selectively change a proceeding path of incident light; and

a photodetector to receive light reflected by the received one of the first and second optical disks and having passed through said objective lens and said optical path changer and to detect an information signal and/or an error signal.

17. The device as claimed in claim 16, wherein the first optical disk is an optical disk of a DVD family, and the second optical disk is an optical disk of a CD family.

18. The device as claimed in claim 16, wherein said light source emits the light having a wavelength between 680 - 780 nm.

19. The device as claimed in claim 16, wherein said light source emits the light having a wavelength between 750 - 770 nm.

20. The device as claimed in claim 16, wherein the ring-type annular lens area of said objective lens is optimized to the second optical disk so that,

when the first optical disk is to be reproduced/recorded, the light that forms the first light spot passes through the near axis area and the far axis area and is focused on an information recording surface of the first optical disk, and

when the second optical disk is to be reproduced/recorded, the light that forms the second light spot passes through the near axis area and the annular lens area and is focused on the information recording surface of the second optical disk.

21. (NEW) An optical pickup device that is compatible with first and second optical disks having different thicknesses, comprising:

a light source to emit a light having a wavelength;

an objective lens to receive the light to form a first light spot when the first optical disk is received, and a second light spot when the second optical disk is received;

a photodetector to receive light reflected by the received one of the first and second optical disks through said objective lens to detect a signal; and

an optical path changer disposed between said light source and said objective lens to direct light from said light source to said objective lens along a first optical path, and reflected light from said objective lens to said photodetector along a second optical path different from the first optical path,

wherein the wavelength is

greater than a maximum absorption rate for the first optical disk, and

less than a wavelength at which reflection rates before and after recording are roughly equal.

22. (NEW) The optical pickup of claim 21, wherein the wavelength is equal to or between 750 nm and 770 nm.

23. (NEW) The optical pickup of claim 21, wherein said optical path changer comprises a holographic beam splitter to diffract light into a 0^{th} order ray directed along one of the first and second optical paths, and $\pm 1^{st}$ order rays such that one of the $\pm 1^{st}$ order rays is directed along the other of the first and second optical paths.

24. (NEW) The optical pickup of claim 23, further comprising a common base upon which said light source and said photodetector are disposed adjacent to each other.

25. (NEW) The optical pickup of claim 23, wherein the holographic beam splitter comprises:

a holographic element to diffract the light into the 0^{th} order and $\pm 1^{st}$ order rays; and

a wave plate to convert incident light from one of linearly polarized light and circularly polarized light to the other of the linearly polarized light and the circularly polarized light.

26. (NEW) The optical pickup of claim 21, wherein:

the first light spot has a FWHM (full width at half maximum) less than or equal to 0.72 μm with respect to the first optical disk;

the second light spot has a FWHM greater than or equal to 0.8 μm with respect to the second optical disk; and

the first optical disk is thinner than the second optical disk.

27. (NEW) The optical pickup of claim 21, wherein:

said objective lens comprises an annular ring disposed between an inner area and an outer area;

the first light spot is formed on the first optical disk using light incident on the inner and outer areas; and

the second light spot is formed on the second optical disk using light incident on the inner area, but not light incident on the outer area.

28. (NEW) The optical pickup of claim 27, wherein the annular ring comprises an aspherical area such that light incident on the aspherical area is not used to form the first light spot, but is used to form the second light spot.

29. (NEW) The optical pickup of claim 27, wherein the annular ring comprises an aspherical area such that light incident on the aspherical area is not used to form the first and second light spots.

30. (NEW) The optical pickup of claim 27, wherein the annular ring comprises a blocking or scattering area such that light incident on the blocking or scattering area is not used to form the first and second light spots.

31. (NEW) The optical pickup of claim 21, wherein:

said objective lens has a numerical aperture that is 0.63 or greater for the first optical disk, and a numerical aperture of 0.53 or less for the second optical disk;

and the first optical disk is thinner than the second optical disk.

32. (NEW) The optical pickup of claim 21, wherein said optical path changer comprises:
a polarizing beam splitter to

reflect one of the light from said light source and the reflected light from said objective lens along one of the first and second optical paths, and

transmit the other of the light from said light source and the reflected light from said objective lens along the other of the first and second optical paths; and

a wave plate disposed between the polarizing beam splitter and said objective lens to change a polarization of incident light.

33. (NEW) The optical pickup of claim 21, further comprising a diffraction element disposed along the first optical path to diffract the light from said light source, wherein said photodetector detects a differential push-pull signal in accordance with the diffracted light.

34. (NEW) The optical pickup of claim 21, wherein said objective lens has an OPDrms that is less than 0.4 at a field height of 1.0 .

35. (NEW) The optical pickup of claim 21, wherein said objective lens has an OPDrms that is roughly equal to 0.4 at an optical disk tilt of 0.35 .

36. (NEW) An optical pickup device that is compatible with first and second optical disks having different thicknesses, comprising:

a light source to emit a light having a wavelength longer than 650 nm;

an objective lens to receive the light and is designed in relation to the wavelength to form

a first light spot having a FWHM (full width at half maximum) that is less than or equal to 0.72 μm when the first optical disk is received, and

a second light spot having a FWHM that is greater than or equal to 0.8 μm when the second optical disk is received;

a photodetector to receive light reflected by the received one of the first and second optical disks through said objective lens to detect a signal; and

an optical path changer disposed between said light source and said objective lens to direct

the light from said light source to said objective lens along a first optical path, and

the reflected light from said objective lens to said photodetector along a second optical path different than the first optical path,

wherein the optical pickup device records and reproduces data to and from the received one of the first and second optical disks.

37. (NEW) The optical pickup of claim 36, wherein the first optical disk is an optical disk of a DVD family, and the second optical disk is an optical disk of a CD family.